

DDSY1540/DTSY1540

Electronic Prepayment Energy Meter

User Manual

I Overview

This product conforms to the standards as follow:

GB/T18460.3-2001 GB/T17215.321-2008

Electronic prepayment electricity meter is a new product of advanced semiconductor integrated technology and SMT manufacture techniques, with anti-fraudulent use, high precision, high reliability, high overload, low power consumption features.

II Main Features

1. Purchase energy power first, then can use it.
2. LCD display remaining electric energy quantity and accumulative total power consumption
3. Power-off alarm: When the remain value less than 10kW·h(can be set) meter will shut down the power. Insert user card to resume power supply.
- 4 Overload alarm: When the user average power exceeds the preset value for more than one minute, the electricity meter will automatically shut down power supply. It will resume power supply automatically 5 minutes later or insert any card.
- 5 Strongly encryption: By using the encryption card

and dynamic encryption algorithm, system data can not be decrypted.

6 Magnetic latching relay: Using high-power magnetic latching relay, low power consumption and high reliability.

III Specifications and Main Technical Data

1 Specifications

Single-Phase

Item Model	Accuracy Grade	Rated Voltage	Rated Current
DDSY1540	1.0, 2.0	220V	2.5(10)A~15(60) A

Three-Phase

Item Model	Accuracy Grade	Rated Voltage	Rated Current
DTSY1540	1.0, 2.0	3×220/ 380V	3×1.5(6)A~ 3×15(60)A

2 Basic Error

Single-Phase

Load Current (A)	Power Factor COS ϕ	Basic Error (%)	
		Class 1.0	Class2. 0
0.05I _b	1.0	±1.5	±2.5
0.1I _b -I _{max}	1.0	±1.0	±2.0
0.1I _b	0.5L	±1.5	±2.5
	0.8C	±1.5	—
0.2I _b -I _{max}	0.5L	±1.0	±2.0
	0.8C	±1.0	—

Note: I_b is the basic current, I_{max} is the rated maximum current.

Three-Phase

Type		Power Factor	Basic Error (%)	
Straight Through Type	Transformer Type		1.0	2.0
$0.05I_b \leq I < 0.1I_b$	$0.02I_b \leq I < 0.05 I_b$	1.0	± 1.5	± 2.5
$0.1I_b \leq I \leq I_{max}$	$0.05I_b \leq I \leq I_{max}$	1.0	± 1.0	± 2.0
$0.1I_b \leq I \leq 0.2I_b$	$0.05I_b \leq I \leq 0.1I_b$	0.5L	± 1.5	± 2.5
		0.8C	± 1.5	—
$0.2I_b \leq I \leq I_{max}$	$0.1I_b \leq I \leq I_{max}$	0.5L	± 1.0	± 2.0
		0.8C	± 1.0	—

3 Starting Current

At rated voltage, rated power, the power factor is 1, when the load current is shown as the following table, electric energy meter can work normally.

Single-Phase

Accuracy	1.0	2.0
Load Current	$0.4\%I_b$	$0.5\%I_b$

Three-Phase

Accuracy		1.0	2.0
Load Current	Straight Through Type	0.4%Ib	0.5%Ib
	Transformer Type	0.2%Ib	0.3%Ib

4 Power Consume

Type	Power Consumption
Single-Phase	<0.8W
Three-Phase	<2W

5. Relay life

Relay action life can be more than 100000 times.

6. Calibration Interface

The terminator box of the meter is provided with a calibration pulse output interface.

V Main Structures and Working Principle

1 Electronic component is mounted on a printed circuit board (PCB). The upper cover is fixed by screws, which can lead seal. Terminal box cover is fixed with special screw fixation, which can lead seal.

2 Energy Meter consist of energy metering and control circuit. Energy metering circuit adopt the

professional measurement chip, send measured power into a signal pulse to the control circuit. Control Circuit receives the pulse signal, then reduce the users' remaining power. When the remaining power is used up, cut off the inner reply and stop supply.

3 This meter must be used with the sale of electricity management software by our company. When user purchase electricity, the sale of electricity worker puts the purchase quantity into the user card by the sale of meter. User inserts the card into the meter, and the purchase quantity will be added to the remaining of the meter.

VI USE

1 Installation

Electric energy meter has been checked and with a lead seal in the factory. Users can install and use without calibration.

The board of meter should be fixed in the solid refractory wall, suggest mounting height is about 1.8m, the air with no corrosive gas.

Electric energy meter wiring connection should be followed to the wiring diagram on the terminal cover, preferably with a copper or copper terminal access.

2. Usage

First User takes the user card to the specified electricity department to purchase power, then user

card insert the meters' slot. Screen will display this time purchase power quantity, after display total remaining power quantity, then pull out the user card. If repeat insert the user card, screen will display 0.0, then IC Card enter the normal display status.

Pls keep card metal surface clean. Do not fold or wear.

Pls report lost and apply for new card issuing office timely when lost.

Several display status:

Attention:

Indicator	Display	Explanation
Remain	59.8	The remaining energy amount value is 59.8 kWh
TOTAL	12.5	The total used energy amount value is 12.5 kWh
	F - 1	Remaining Power Insufficient Alarm. Meters remaining power is reached alarm value. Please insert the user card to recover power supply .
	F - 2	Overload Alarm, User's power exceeds the limit value, please reduce user's power. The meter will recover power supply within 5 minutes automatic.
	00000	cleared state

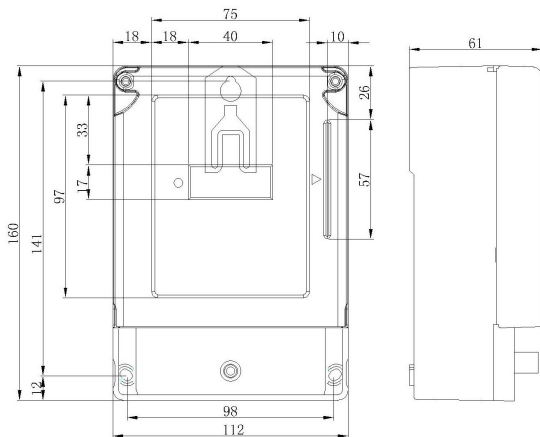
When display value over 99999.9, then don't display decimal point, numerical value max 999999kwh, more than value counting from zero again.

Relay or External circuit breaker failure result remaining power turn up negative (zero-crossing power), when energy meter type-in purchase power quantity, it will automatically credits the zero power.

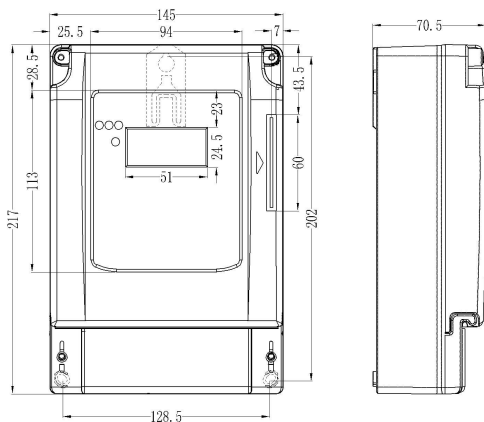
VI Drawing

1 Dimensional Drawing

Single-Phase

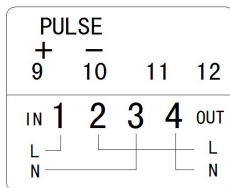


Three-Phase

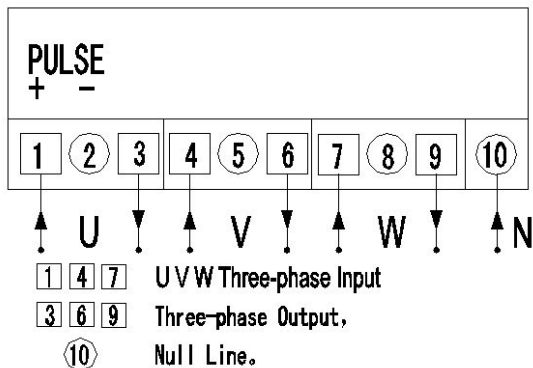


2 Wiring Diagram

Single-Phase



Three-Phase



VIII Transport and storage

1-Energy meter should not be severe impact on transportation and unpacking.According to GB/T 15464-1995 "General Instrument Package technical conditions" requirements, transportation and storage.

2- Energy meter should be stored in the original container, storage ambient temperature of -25 ° C to 70 ° C, relative

humidity less than 85%, non-corrosive gases in the air.

3-Storage of energy meter is in warehouse. Placed on the bench, stack height not exceed 5 boxes, after unpacking single Meter the stack height not more than five.

IX Quality Guarantee Period

Since the manufacture date in two years, under the conditions of the user to comply with the requirements of user manual to use and seals intact, Where the quality of cause of failure of the meter, Company will provide free repair or replacement.